

SIXPENCE

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# AMATEUR RADIO

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## .. STEREOSCOPIC COLOUR TELEVISION ..

The Wireless World in a recent issue states that although much more work remains to be done before colour television in depth can be made available to theatre audiences, Mr. J. L. Baird has recently demonstrated the fact that a practical solution of the problem has been found for the individual receiver.

As in some earlier demonstration it is necessary for the viewer to sit directly in front of an image forming lens, but the tolerance in the matter of movement of the head is small since the left eye must not know what the right eye is seeing and vice versa. That is not to say that any special skill is called for in finding and holding the view point which makes the picture "come to life" and one can readily accede to the inventors suggestion that the system might be usefully employed in a "seeing telephone" system. The addition of a colour and a third dimension would be of inestimable value in demonstrating samples etc. to which two dimensional vision cannot do full justice.

A projection type cathode-ray tube is used for scanning the image of the spot being focused on the object by a lens. Complete 100 line frames are repeated 150 times persecond, successive frames being scanned through green, red and blue filters and interlaced five times to give a 500 line picture. In a previous Baird demonstration of colour television, a 600 line picture with 50 frames per second was used, here being only two filters, red and blue-green; but for the present purpose of demonstrating the optical practicability of stereoscopic images no attempt has been made to restrict the side band frequencies.

The original scanning beam after passing through one of the colour filters and the projecting lens is divided by pairs of parallel mirrors into two subsidiary beams spaced by a distance equal to the average separation of the human eyes. A revolving

shutter with a special contour to correct geometrical scanning allows first one then the other beam to scan the object in succession. Light reflected from the object is picked up by sensitive photocells and the resulting current is made to modulate the transmitter.

At the receiving end the image formed on the screen of a cathode-ray tube is passed through synchronised colour filters and a revolving shutter which ensures that the alternating left and right hand images are reformed by the field lens in line with the appropriate eye of the viewer.

If the colour reproduction lacked the ability in this early experiment to differentiate the subtler shades it dealt faithfully with the bolder colours. The stereoscopic effects were an unqualified success, and when the person being televised reached towards the camera, his arm at the receiving end seemed to project out of the lens towards the viewer.

Mr. Baird is to be congratulated on the success of this new step towards the ultimate ideal of complete illusion in television and recognition should be given to his perseverance and detachment in keeping this particular line of research alive in war-time Britain.

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#### EMERGENCY OUTPUT TRANSFORMERS.

If the output transformer of your set breaks down at a critical time when it is impossible to quickly obtain a replacement it has the tendency to make life seem rather hard. However there is really no need to despair if a disused power transformer or even a so-called bell-ringing transformer is available. The power transformer will, if we are lucky, probably possess two separate filament windings, and these can be pressed into service as the secondary winding for connecting to the speech coil, the mains winding being used as the primary.

We have got quite a range of ratios available for a rough attempt at matching, as we can use one filament winding along or can use the two in series or parallel. In the latter case however, be careful to get the two windings connected in the same "sense" or they will cancel out. If a bell transformer is available we have a tapped secondary labelled probably 3, 5, and 8 volts, the latter being the full winding. The 3 and 5 volt tapping will give us other ratios.

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PAGES FROM THE PAST

ENGLAND ON TWENTY METRES

Successful two way daylight communication by radio on a wavelength of 20 metres was established on Saturday and Sunday by Mr. C. D. Maclurcan, of Sydney, and W. E. Simmonds, of Gerald's Cross, Bucks England.

On Sunday afternoon Mr. Maclurcan transmitted a message from the Prime Minister of Australia to the Prime Minister of Great Britain, and he sent and received messages of greeting and congratulations exchanged by the leading amateur Wireless Societies in Great Britain and Australia.

In this achievement the most important that has been made by Amateur wireless for a long time, the "Sun" has co-operated with Mr. Maclurcan here and with Mr. Simmonds in England.

"On Saturday afternoon, said Mr. Maclurcan today, I got Simmonds at once when I called him at three o'clock, and I heard his reply clearly. We exchanged greetings for half an hour or so, but his signals were rapidly getting weaker and he was very hard to hold at the end of the test.

On Sunday at the same time, Simmonds replied immediately to my call, his signals being much stronger. We worked for an hour, until again his signals began to get unstable and to fade. Apparently he was having no difficulty in getting me, because he never asked me to repeat anything.

I had anticipated a successful result of the Sunday test, and in the meantime I had got in touch with Mr. Bruce at Melbourne. He gave me the following message to send:-

'Prime Minister, England--On occasion of this achievement, Australia sends greetings. (Signed) Bruce, Prime Minister of Australia.'

I also sent this message to Mr. Eccles, President of the Wireless Society of Great Britain-- 'Greetings to Wireless Society of Great Britain from Wireless Institute of Australia, New South Wales Division, by first 20 metre daylight working, Signed - Maclurcan, President.'

Simmonds ok'd both of these messages and sent me this one:- 'Greetings to Wireless Institute by direct amateur 20 metre working from R.S.G.B., signed, Eccles, President.' This was all we were able to do as signals grew faint here as the sun went down.

Also I broke a valve. I hope to get another set up for

another test today. Then I may get from Simmonds some particulars about his set and the power he is using. I still think his power is too low.' (Good on you Charles, you are a man after my own heart. T. High).

I tried on Sunday to get a message from Sir George Fuller for transmission, but I could not reach him in time, and he actually rang up when I was in the middle of communication so that I could not take his message.

'I don't think I could stand very much more of the strain of these extreme distance tests, and I am glad this one is nearly over' added Mr. MacLurcan. 'The tuning is so very fine, and the concentration called for so intense. Even a slight movement of my body would interfere with the tuning. My method of regulating it was to move my open hand a little nearer or a little away from the set. Even the movement of my chest would cause Simmonds signals to fade.

On Friday afternoon I had a most satisfactory half-hour with a Japanese operator. (Now I know why you want a Freedom Radio. T. High). Mr. D. Arakawa at Iwatsuki Radio, Tokio. His signals were excellently sent and in perfect English. He had heard me working England on twenty metres, and - this interested me very much - he had also heard snatches of my speech when I was trying to get the voice over. There should be really no difficulty about sending the voice; the only one is that which I have referred to, tuning, and for speech the tuning must be very exact. Unfortunately his wavelength was two metres more than mine, and we did not actually exchange messages although we heard each other well....."

T. High.

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.... SLOUCH HATS and FORAGE CAPS ....

March 25th...what will another month bring?...Surely a big mail at VK2YC telling what chaps have returned home, or from the chaps themselves telling us of the overcoats hams they met when they were "over the otherside." I feel that a special medal should be struck for 4RF...news for this column three months in succession, and the lad no ver leaves the Naval Station. Its the old story of the "will finding the way." Thanks om, and may the baby daughter never keep you up at night. By the way, keep an eye out for that grandchild of 2PX. Hi.

At the moment of writing 2XQ is the only one of the RAAFWR that I know to have arrived back safely from Malaya. Detracting somewhat from this very fb news is "a grapevine" that our ex-President 2HZ did not get away, as was first supposed...has

anybody news of 3YK?

The VK2 Division has received a P.O.W. Card from 2AKE who reports (3/10/41) that his first home letter had arrived and that parcels were also getting there. Hope our VK2 Civ. Parcel gets to him and Snow O.K. He mentions he knows 3MR is a prisoner, but that he hasn't arrived at his camp (Prato Isarco) yet. Jim reports everything fb and, to use the ABC alibi, end up "with those words", "Space is limited so give my 73s to any of the boys, and a Merry Xmas to and best of luck. Cheorio and 73 de Jim..ox VK2AKE"...so I guess the Italian Censor must be related to IIR or some such, what?

To 2ALG goes our thanks for the first news of the Ws. He reports meeting Cpt. Ray Daly W9ZRA, Tech-Sgt. Bill Olson 9DRE and Tech-Sgt. Mike Strachan 9PFI. Also that Dr. Monco W6ZL was there on a .....but hasn't been back since. However, Joe says up in our Northern Outpost they are too busy for social calls these days. He also says he has met VK2AMP of the Sigs and 2AMQ of the Engineers while a new Officer billeted with him turned out to be 2YM ex 4BE. So as we all agree its hard not to find a ham whomever one may be. Many thanks Joe, om, for the news, may you soon be a Captain instead of a "Loot." Hi.

By the way our Sydney newspapers speak of Ws in VK4 and VK3, but as I haven't had a line from either State about them, I presume it is just the usual newspaper gossip. How about it VK5 and VK4?

From 4RF I have the following: -

3RY.. A Petty Officer in the R.A.N. is now busily engaged servicing Supers and slinging up spare sky-wires at a Naval W/T Station.

4Lt..Last heard of Albert mucking about Thursday Island for the Militia. Look out for those J5s om. Better send him some J QSLs 'om...2YC.

4KZ..Recently had a nice air trip from Adelaide to Darwin, but I think you would rather the "boats", Cliff.

4RF..Just acquired a "Simplex Auto" which he prefers to his American "Mac-Key", but thinks its too early to teach his week-old baby daughter how to pound the brass. Lots of QRM around the house these days.

2ACG and 2ANP can't see any connection between wounding air raid trench implements and punching a key re their war effort in the Navy. Hi.

Thanks om, wish I had another half a dozen correspondents like you.

Last Sunday Arthur of 4AW "dropped" in at 2YC. Arthur has been changed from Cootamundra to VIM. and was on a Flight north when bad WX farther on brought them down at Mascot, which is quite new 2YCs. However, 4AW put over some story about "Ossifers" NOT digging and so our Air Raid Shelter wasn't he lped a bit, and I'm not at all sure he was within his Official rights, either.

Basil Dale 9XX/2XX is now in VIM instead of Moresby, and wishes to be remembered to all the boys. You should have stayed there and got our column the front line news on, Hi.

Well , 73, oms, and, please..how about some news...QRA..78 Maloney St., MASCOT. N.S.W...phone M.U.1092.

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### .. BOOK REVIEW ..

THE RADIO HANDBOOK, Eighth (1942) Edition, by the Editors of Radio. Published by Editors and Engineers, Ltd., 1300 Kenwood Road, Santa Barbara, California. 640 pages 6½ by 9½, profusely illustrated with 577 line drawings and half tones, and 41 tables.

The RADIO HANDBOOK is a general compilation of information on the practical aspects of radio. Its content can be divided into three classifications: (1) basic theory of electricity, radio, vacuum tubes, and antennas, written from the standpoint of practice rather than from the engineering viewpoint; (2) constructional information on the building of a wide variety of types of high frequency and u.h.f. transmitters and receivers for phone and c.w. use, coupled with information on the construction of many useful pieces of test equipment; (3) tube characteristic tables, reference charts and graphs, and a collection of formulas useful to the practicing radioman.

Investigation to determine the principal sale of previous editions indicates that there were two main classes of buyers; those who were using the Handbook as a reference work and hence had greatest need for the comprehensive tube tables, charts, tubular material, and formulas; and those schools who were using the RADIO HANDBOOK as a radio instruction textbook.

As a consequence of this investigation the tube tables have been expanded as well as being brought up to date, and the reference material has been considerably increased. To assist those using the Handbook as a text the theory chapters have been rewritten and expanded with an eye to increasing their suitability to this application. Due to a more compact type style and an increased number of pages, these increases in text and reference

material have been made with no sacrifice in the amount of space devoted to constructional information.

Investigation also showed that one reason this Handbook is so widely used as a textbook is that no other comparable book contains so much up-to-date information suitable for instruction in the subjects of F.M. and U.H.F. communication, in addition to the usual radio and electrical theory.

The RADIO HANDBOOK contains the most comprehensive information available in any one book on all types of transmitting, receiving, and special-purpose tubes. A total of 54 pages is devoted to this extensive listing. Both transmitting and receiving tubes are listed in the order of their assigned number to make it possible to find the characteristics of the desired tube in the least amount of time.

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#### D I V I S I O N A L   N O T E S

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##### .. Notes from Federal Headquarters ..

The December Calendar of the International Amateur Radio Union has just arrived with the intimation that this issue will be the last until such time as peace again reigns supreme. This state of affairs, after two years of war, is only to be expected. As the Calendar existed purely as a means of conducting the affairs of the Union and as no Society had any business to bring forward, there was no option other than to cease publication. A skeleton staff will be maintained of course until such time as the Union again functions.

Emergency Communication networks were again discussed, and it was decided that the States be circularised in an endeavor to ascertain the manpower available to put such a scheme into operation.

It was hoped to place before Members, some details of the Federal Census with this issue of "Amateur Radio", but as cards are still trickling in, it was thought advisable to postpone the task of co-ordination for at least another month.

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NEW SOUTH WALES DIVISION

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The monthly General Meeting was held as usual at Y.M.C.A. Buildings on Thursday 19th March.

A very interesting and instructive Lecture was delivered by Mr. P. F. Dixon VK2AFB, on "Valves, their Characteristics and Construction". This talk was very much appreciated by all present.

No further news has been heard of the R.A.A.F. gang since they left Singapore. Anyone able to forward any news of 2HZ, 2ZQ or 2ATW is asked to do so as soon as possible. Some considerable discussion took place regarding a proposed Emergency Communication network and it was decided to make a survey of the manpower available to put such a scheme into operation.

Still they go. Latest member of Council to join up for the duration is Alan Joscelyne 2AJ0. Alan is now a member of 2nd Divvy Signals.

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-- VICTORIAN DIVISION --

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The morse classes which the Division has been conducting for many months, twice a week, are now to be extended to four nights a week-- Monday, Tuesday, Wednesday and Thursday. The class Manager, Mr. H. N. Stevens VK3JO reports that this is due to a large increase in students obtained through the co-operation of VK3UQ who is attached to the R.A.A.F. Recruiting centre. All speeds are catered for at the classes, the instructors being mostly old Navy, Army and Air Force operators.

More Instructors are required, and anyone who can help should get in touch with Mr. Stevens at the Institute Rooms, or telephone F6997.

The last meeting saw the attendance of one of our American friends W6EBO, who hails from California. He is a

Sgnt. in Signals and has promised to try and produce a few more W's. Thanks OM, we've been trying for some time to get in touch without success. The Institute is very desirous in meeting as many of the W's as possible, so anyone who knows of one give him the Institute Telephone number.

The meeting was favoured by the introduction of two oscillographs (it never rains but it pours). One was brought in by Mr. Quigley, a 902 home constructed job. The other was a commercially manufactured one provided by Mr. Ivor Morgan 3DH. The wave forms of various audio oscillators and standard frequency recordings were studied, and the evening proved very interesting.

We regret to announce that P/O A. E. Tinkler VK3ZV has been reported missing as result of Enemy Operations.

3JO...the class manager...some of us wonder why Herb goes in every night now. After the report that there are several YL's attending the classes...One never knows.

3NY...is attending A.R.P. Classes.

3EF...is doing a little speech amplifier work, and is, I believe a member of the local V.D.C.

3NX...is a member of the R.A.A.F. ground staff.

3NQ...is to be congratulated on his marriage recently, is a member of the A.M.F.

3UK...is reported to be dodging bombs somewhere in the north.

3BW and 3BU paid a flying visit to the meeting last Tuesday night.

3WG...not seen very much but heard of occasionally keeping R.A.A.F. installations running smoothly.

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The Division meets on the Third Thursday of each month at Y.M.C.A. Buildings, Pitt Street, Sydney, and an invitation is accorded to all Amateurs to be present.

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